The Seven Habits of Highly Effective Readers

Abstract

Reading comprehension is more often assessed than taught. Research demonstrates that powerful metacognitive strategies can be taught to help students monitor and improve their own comprehension. This paper provides a repertoire of essential thinking strategies for teaching reading comprehension with students in the primary and middle years, with practical classroom activities. Special attention is given to multimodal reading comprehension and critical literacy for the new times.

Keywords: reading comprehension, metacognitive strategies, metacognition, multimodal, critical literacy, primary school, middle years

As a former primary school teacher, I vividly remember a day when a parent met with me to discuss her sons' report card. She asked pointedly, "How can I help my son to improve his reading comprehension?" I can't remember what I replied, but I distinctly recall feelings of inadequacy. Now, almost ten years later, I have found the answer to her question. Unfortunately, it is too late to tell Michael – who has probably finished school – but it is timely advice for a new generation of teachers.

It has been consistently shown in classroom research that comprehension is more often assessed than taught (Trehearne, 2006, p.101). Framing post-reading questions to "test" students' comprehension does not improve their ability to understand what they read. Given the large volume of research on reading comprehension in the past quarter century, there has been the potential for a revolution in schools with respect to reading comprehension instruction (Pressley, 2001). This paper provides tools to help improve students' comprehension, including special consideration of multimodal textual environments and critical literacy.

Can Metacognition be Taught?

Metacognition – awareness and control of thinking processes – is critical for successful reading comprehension. Research has shown that metacognitive skills *are* teachable and can be enhanced through training, rather than being solely developmental. Research with students in the middle primary grades showed that learners benefited from instruction in metacognitive strategies, assisting them to become effective learners early in their school careers (Anstey & Bull, 2004, p.152).

Surprisingly, many of the studies that examined the thinking of proficient readers pointed to a cluster of thinking strategies used consistently (Keene & Zimmermann, 1997). Seven habits of highly effective readers are addressed in this paper:

1. Activating prior knowledge
2. Using Narrative and expository text structures
3. Visualising
4. Using Graphic and Semantic Organisers

5. Retelling, Summarising, Synthesising
6. Making connections
7. Generating and Answering Questions

It is important that students know how and when to apply the strategies in different reading contexts. Students need to use comprehension strategies that can be recombined in different ways for different situations, rather than reducing them to "school activities" or "time-fillers" (Anstey & Bull, 2004, p.160). Children who read at the third-grade level in grade 3 will not automatically become proficient in reading comprehension in later grades (Snow, 2002b). Therefore, metacognitive strategies for reading comprehension must be taught, and instruction is most effective when it focuses on a few well-taught and well-learned strategies (Duke & Pearson, 2002).

Multimodal Texts and Reading Comprehension

Before delving into the toolbox of comprehension strategies, an important issue must be raised concerning textual choices. There has been a tendency to focus exclusively on print-based texts in reading comprehension instruction, while an expanding array of communications channels characterises the world outside of schools. In schools, linguistic meaning is often privileged over non-linguistic modes, and writing over speech. Reading multimodal texts requires the interpretation of linguistics, visual, auditory, spatial, and gestural semiotic systems that are increasingly combined in new forms of text. Students' understanding of the linguistic semiotic system is certainly necessary in an age of increasing technological innovation, but it is not sufficient (Anstey & Bull, 2007). Consequently, students are often unprepared for the demanding uses of literacy across multiple modes in society. While not all modes are equally important in all social contexts, they are important aspects of reading comprehension that require attention (New London Group, 1996).

Visual meanings or modes include images, page layouts, screen formats, colours, perspectives, vectors, foregrounding and backgrounding. Audio meanings include music and sound effects. Gestural design involves body language, gestures, kinesics, feelings, and behaviour. Spatial design includes the meanings of environmental, architectural, and geographical meanings (Kress, 2000; Luke, 2000; New London Group, 2000). Multimodal comprehension differs from processing information using independent modes, because there are interconnects between modes that form dynamic relationships. Multimodal comprehension is significant because it involves the whole body in the process of learning.

Table 1.0 shows how different meanings are communicated through the five modes (Cope, 2000), in a range of everyday texts, addressing:

a) Representational meaning – What the meanings refer to,
b) Social meaning – How meanings connect the persons involved in the text,
c) Organisational meaning – How the meanings are structured to work together,
d) Contextual meaning – How the meanings fit into the larger social context,
e) Ideological meanings – How meanings serve the interests of certain people.

	Linguistic Examples	Visual Examples	Spatial Examples	Gestural Examples	Audio Examples
Representational What do the meanings refer to?	The word "she" is understood only in relation to a person previously named in a paragraph.	A photo displayed of the Queen of England has political, cultural, and historical meaning.	Hard seating at McDonalds is designed to keep cash flow, food, and customers moving.	Facial expressions indicate certain emotions.	An ambulance siren tells other drivers to give way to the emergency vehicle.
Social How do the meanings connect the persons involved?	A first-aid manual is written by a medical expert for the novice.	A picture taken from a low angle makes a social figure look powerful in relation to the viewer.	The design of a lecture hall concentrates social interactions on the main speaker.	Eye contact connects speakers and listeners.	Restaurant music provides a background to other social interactions while a concert orchestra is the focus of the social interaction.
Organisational How do the meanings hang together?	A novel has a different generic structure and linguistic features than a science report.	Images in the centre of a picture are given priority over images in the margins.	Websites are hyperlinked to other web pages and sites to create a non-linear network of information.	The postures of a group of actors on a stage (e.g. standing/ sitting) conveys certain meanings.	Intonation, rhythm, pitch, volume, and prosody of speech work together to convey meaning.
Contextual How do the meanings fit into the larger world of meaning?	SMS[1] messages blur the conventions of speaking & writing to convey informality and to limit the duration of interactions.	An image located in an art gallery has a different meaning to the same image depicted in a sales brochure.	Modern architecture refers to other cultural contexts (eg, Western design includes Japanese motifs).	The meaning of hand gestures of police at an intersection differs from other social contexts.	In the context of a thriller movie, music works with fast images to convey suspense and excitement.
Ideological Whose interests are the meanings skewed to serve?	The omission of price in an sales flyer is deliberate.	Journalists selectively present images to shock or persuade the viewer	The absence of windows and clocks in casinos manipulate gamblers to forget time.	Magic tricks deliberately use larger gestures and motions to hide or blur smaller motions.	Music in department stores is deliberately designed to make buyers linger.

Table 1.0 Analysis of Texts Using the Five Modes (Adapted: Cope & Kalantzis, 1999)

[1] Short Message Service or cell phone text messaging

Multimodality captures the multifaceted and holistic nature of human expression and perception. Teachers need to plan reading comprehension programs that acknowledge the key differences between multimodal and pencil and paper-based reading comprehension:

1. Attending to multimodal cuing systems (eg, camera angles, spatial layouts), rather than using the linguistic cueing systems in isolation (eg, orthography, syntax, genre).
2. Recognising and interpreting the new conventions of emergent, screen-based genres *(e.g. Using hyperlinks, tool bars, SMS abbreviations, eye-contact with webcam)*
3. Non-linear reading comprehension and navigation skills *(e.g. directional patterns of reading the Internet differs to the left-right, top-down reading of books)*
4. Rapid interactivity between reader and writer that requires switching between reading and writing *(e.g. internet relay chat, blogging))*
5. A need for heightened critical literacy skills in the deluge of globally-disseminated information (Author, 2006).

Teachers should seek out multimodal activities that provide opportunities for students to develop multiliteracies, including screen-based reading in networked learning environments. Multimodal comprehension involves processes of integration as the reader moves alternately between various modes, which form a network of interlocking resources. Therefore, the seven strategies for improving reading comprehension should be taught in a wide range of print and multimodal reading contexts.

1. Activate Prior Knowledge

Imagine reading a section of a biology textbook about the polyacrylamide gel electrophoresis of radioactive RNA. Far removed from the experiences and knowledge domains of a literacy expert, such a text is likely to have little meaning. Similarly, a students' inability to comprehend text is often less to do with cognitive abilities than relevant prior experiences, and knowledge of the topic, genre, or vocabulary. In particular, students with varied social and cultural backgrounds will have differing schemas upon which to relate new knowledge from texts.

One of the most effective ways to improve comprehension of print or multimodal texts is to activate and support their "mental files" before reading (Keene & Zimmermann, 1997). Students need to be taught to consciously activate relevant schemas (prior knowledge) to comprehend new information from texts (Shallert, 1982).

With this in mind, teachers need a stimulating repertoire of "before reading" activities to ensure that students have the necessary resources to make meaning from the text. These include activities such as free-associating about a topic or making predictions about the cover, author, title, and visual content of a book prior to reading (See Figure 1.0). Such pre-reading strategies have been found to improve all levels of comprehension, from recall to inferential and critical thinking, and can be modelled to students in shared and guided reading sessions (Anstey & Freebody, 1987).

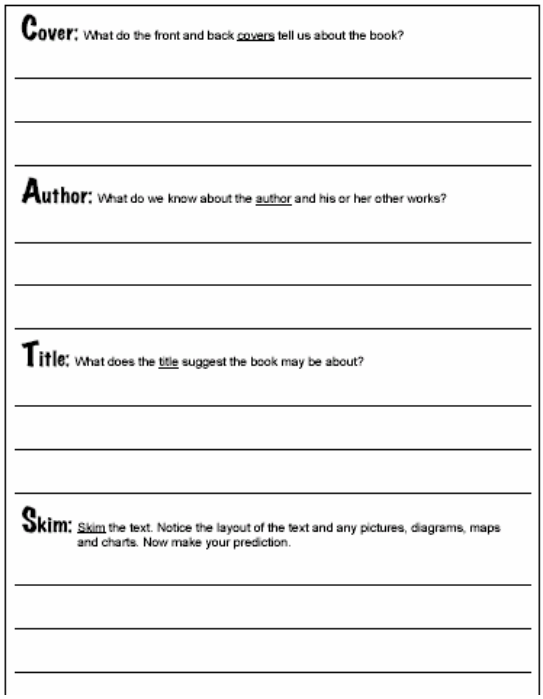


Figure 1.0 CATS [i]

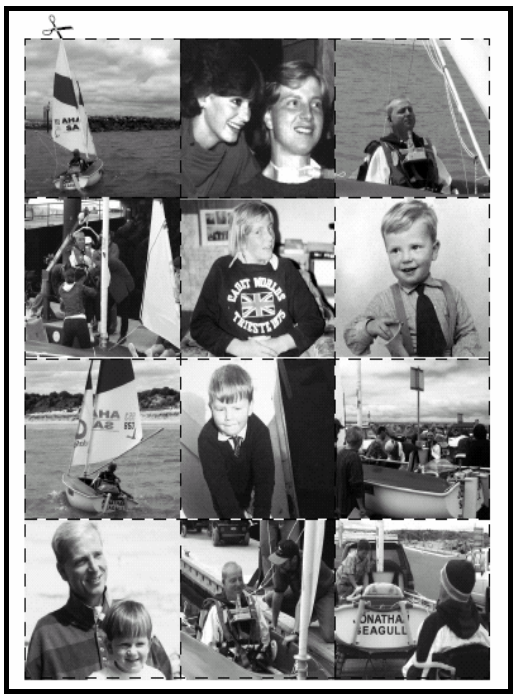


Figure 2.0 Storyboard Predictions

Figure 2.0 shows an example of how to activate prior knowledge using Storyboard Predictions. Students sequence the pictures and make predictions about a text (in this case, a biography), before reading the words.

2. Narrative and expository text structures

Narrative and expository texts are two genres with extensive application in a globalised world of communication. An important metacognitive strategy to improve reading comprehension is identify the elements and organisation of narratives, information texts, and many other non-narrative text types (Trehearne, 2006, p.110). This multimodal strategy draws upon linguistic, visual, and spatial modes because the structure of the text becomes a pictorial outline to scaffold the key features of the text described using written words.

Students today are exposed to many written textual forms, including poetry, websites, internet relay chats, magazines, SMS messaging, and online transactions. A plethora of texts require different multimodal conventions, such as abbreviations, diagrams, graphics, hyperlinks, toolbars, icons, tables, non-linear spatial layouts, and moving mages. Students need to be taught to identify the organisational structures of a wide variety of texts, which research has shown to improve comprehension (Snow, 2002b).

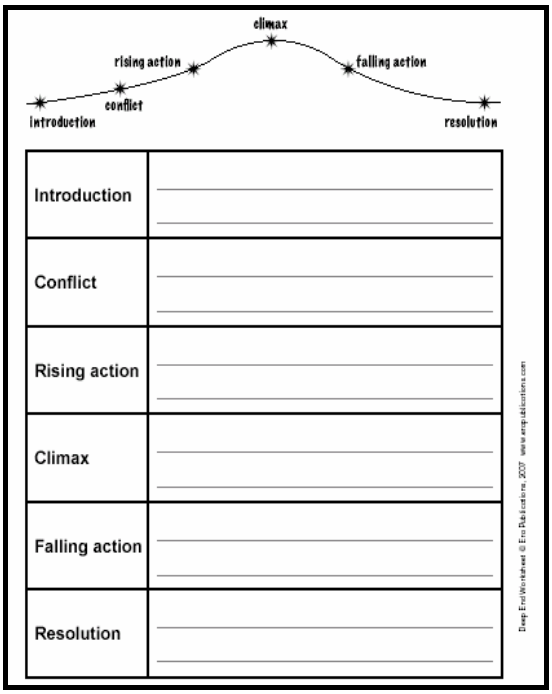


Figure 3.0 Plot Profile

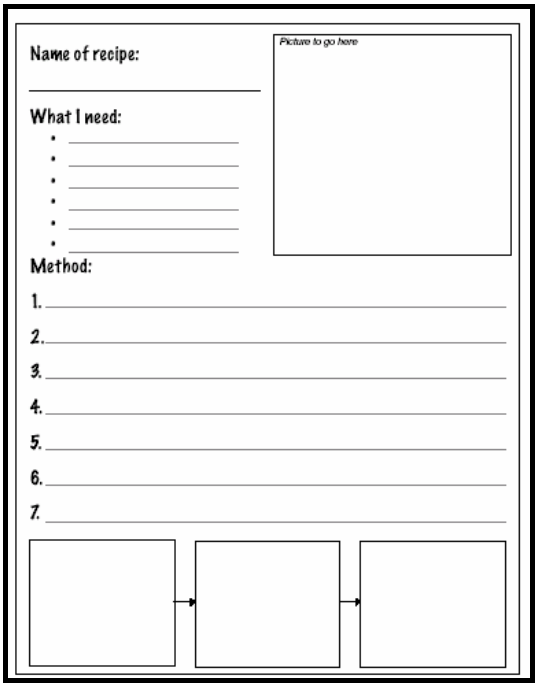


Figure 4.0 Recipe Outline

A plot profile is an example of a visual strategy for making narrative text structure explicit (See figure 3.0). This thinking tool helps students to identify the rising and falling action in story plots.

An example of an organisational structure for a non-fiction text is shown in Figure 4.0 – recipe outline. While identifying particular elements of non-fiction text types, such as the structure of an argument or report, aids comprehension, it is important for teachers not to present text structures as static and unchanging. Textual structures are increasingly blurred as emerging textual forms extend the limits of conventional textual forms (eg, Internet news sites versus newspaper report). Teachers should use a range of authentic examples of textual structures in multimodal and print-based forms, highlighting their typical and atypical organisational features (Anstey & Bull, 2004).

3. Mental imagery or Visualising

Visualising or making mental images is an important strategy to assist comprehension of written information. The strategy of visualising is the mind's capacity to imagine what is being communicated by the words, images, gestures, spatial layout and sounds within a text. The ability to "image" anchors new ideas in the mind of the reader or viewer, and links the text to a concrete experience – image, feeling, sound, small, or taste. Students need to be taught to recall ideas in a visual way in appropriate reading contexts (Pressley, 2001).

Dramatic and visual arts responses are creative ways to help students deepen their understanding of texts, providing multi-sensory and imaginative role-play experiences to transport learners into personally significant, virtual worlds. The greater the reader's ability to

savour the words, rhythms, sounds, and images of a text, the more fully will students vicariously, aesthetically, emotionally and intellectually engage with a literary work as a whole (Rosenblatt, 1976).

"Character Hot Seat" is an activity in which a student takes the role of a main character in a narrative. The class interviews the character to generate inferences about the relationships between characters and events. For example, after reading the traditional tale "The Boy Who Cried Wolf" the class can take on the role of the villagers who question the boy about his deceptive cries for help. Such dramatic arts activities provide a springboard for generating alternate perspectives, while encouraging deeper understanding of the network of relations between characters in a narrative (Author, 2007).

An example of a visual arts responses include representing a story as a comic strip, drawing a map of the setting in a story from aerial perspective, or quickly sketching visualisations of key events or characters while listening to the reading of a story. Making a mental picture is an important fix-up strategy that readers use when they experience difficulty understanding a text. Students can close their eyes and image what the scene or characters look like. They then describe orally to a partner what they see in their mind. Students need to be reminded to use such visualising strategies when they read independently (Author, 2007).

4. Graphic and semantic organisers

Graphic and semantic organisers are visual and spatial ways to organise and represent ideas from texts, such as using tables and grids, Venn diagrams, plot organisers, or concept webs. Teachers need to show students how to select and use graphic organisers as thinking tools, supporting them to activate prior knowledge, develop new vocabulary, or show relationships between concepts (Trehearne, 2006, p.159). Interestingly, English as a Second Language student and student with learning disabilities particularly benefit from their use (Trehearne, 2006).

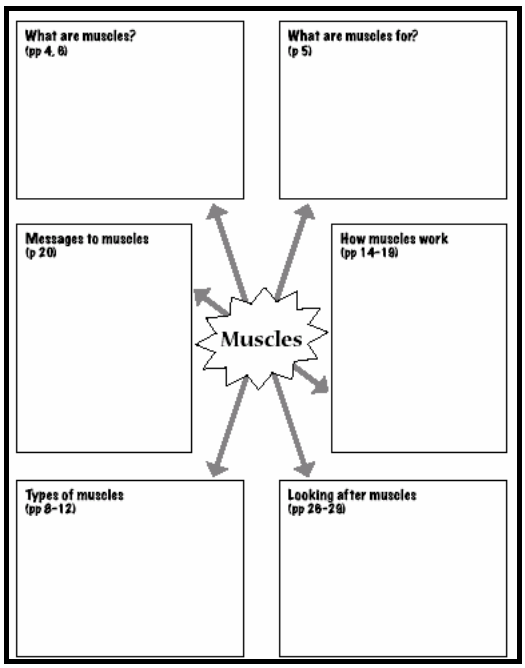


Figure 5.0 Concept Map

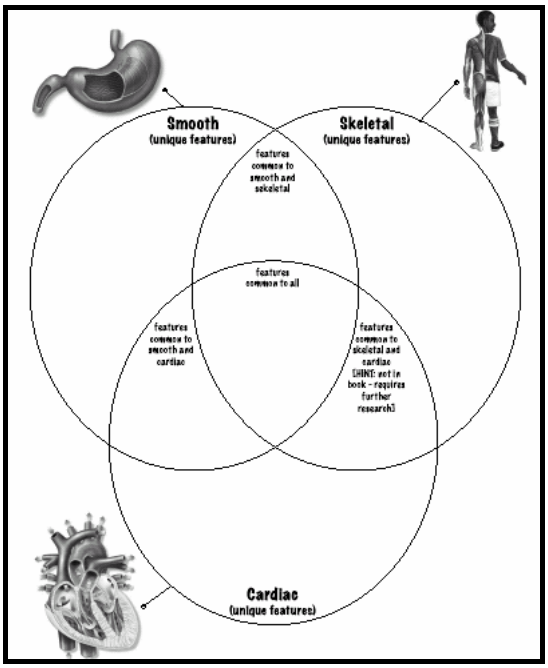


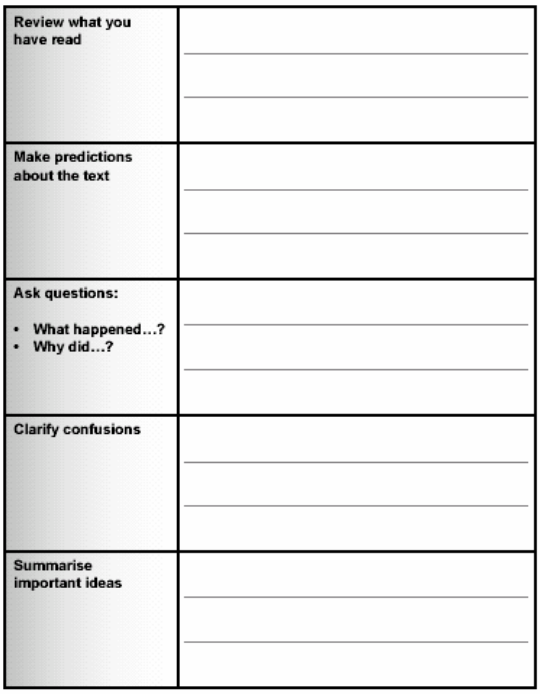
Figure 6.0 Venn Diagram

A semantic map or web is a visual tool to show relationships between facts after reading an information text (See Figure 5.0). Alternatively, they can be used to show relationships between characters, settings, or events after reading narratives. This technique is equally useful for organising concepts before reading about a topic, becoming a tool for activating prior knowledge.

A Venn diagram is a useful graphic for comparing and contrasting the attributes of two or more things (See Figure 6.0). The teacher selects a non-fiction text about a research theme, such as the human muscular system, and students identity what is the same or different about two or three items. Alternatively, use a fiction text with good character development, and students identify what is the same or different about two main characters. Similar items are written in the overlapping sections of the circles.

5. Retelling, summarising, and synthesising

Students need to be taught the important comprehension skills of retelling, summarising, synthesising, and inferring information. Activities should be designed to teach students to identify the salient information, to integrate key ideas to make meaning, and to paraphrase texts. Retelling is not simply recalling a list of events. Rather, it involves selecting the most important information, making personal connections, and presenting the information in a logical order. Summarising involves condensing a portion of a text into a manageable chunk, identifying the essence of what has been read (Trehearne, 2006).



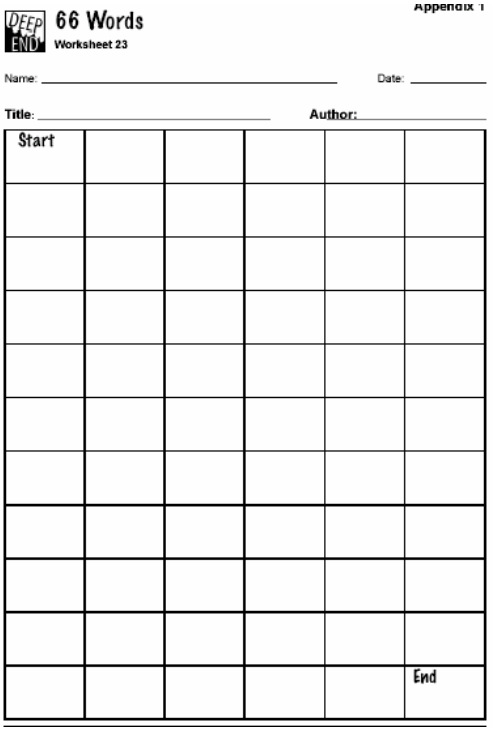


Figure 7.0 Reciprocal Teaching

Figure 8.0 Sixty-Six Words

An activity for teaching retelling and summarising skills is reciprocal teaching, which involves four essential comprehension strategies: predicting, asking important questions, clarifying unclear segments (monitoring comprehension), and summarising (See Figure 7.0). The order in which the reciprocal teaching strategies are used is not a fixed, linear sequence. Rather, the four strategies are used in an order that suits the text and the reader. After modelling the strategies sufficiently by thinking aloud, the teacher gradually releases the responsibility of instruction to the students, who when confident, apply the strategies to coach their peers or younger readers. This success of this approach to encourage distributed expertise among students has been well documented by cognitive scientists (Brown & Campione, 1992).

A useful tool for helping students to summarise effectively is “66 Words” (See Figure 8.0). Students write a concise summary of a text in sixty-six words or less, writing one word in each rectangle. After creating their own summaries, student can combine and refine their ideas to create a group summary, discussing what was included and excluded and why (Author, 2007).

6. Making Connections

A necessary strategy for comprehending information from texts involves making connections between new knowledge and the known. For example, even toddlers can make explicit connections between what they read in picture books and objects in their physical environment. When viewing a picture of a clock, they might point to a clock on their bedroom wall. Readers incorporate what they know to make three kinds of connections (Author, 2007).

a) text-to-text (links between the book and another book/movie/magazine etc),

b) text-to-self (links between the book and the reader's personal experiences),

c) text-to-world (relating books to what is known about the world).

Such connections extend a reader's schema or web of ideas about a concept.

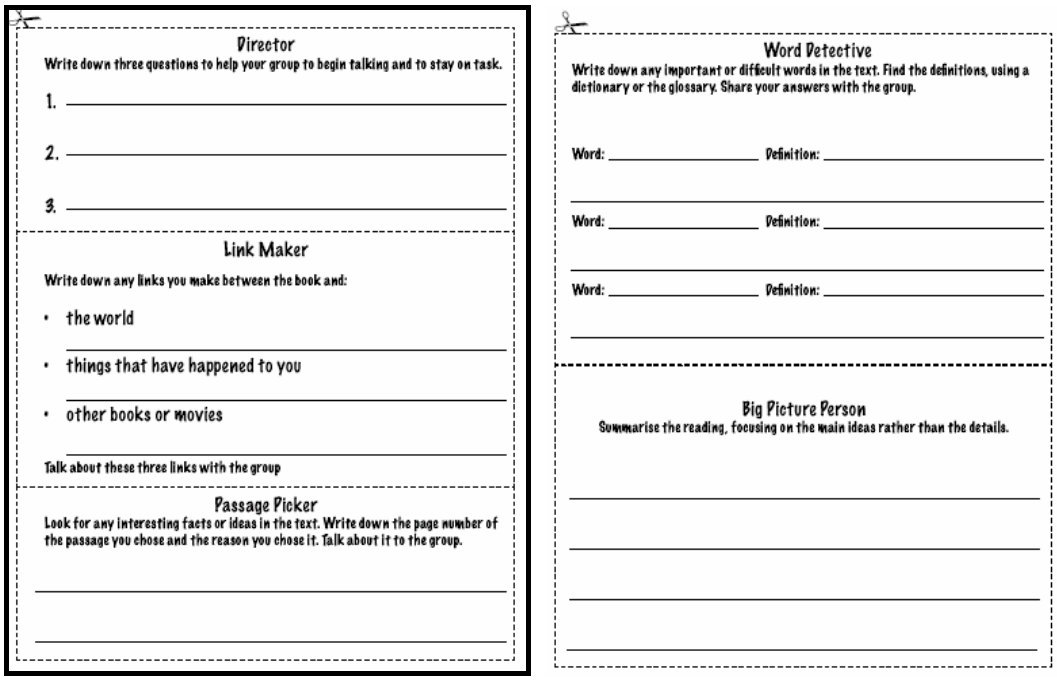


Figure 9.0 Literature Circle Roles

Literature Circles are small group discussions about multimodal or print-based texts (eg, E-literature, websites, books) that integrate several comprehension strategies, including making connections (See Figure 9.0). The teacher demonstrates the predetermined roles, and explains the routines and timeframe. The *Director* prepares three questions to initiate and guide the group discussion. The *Link Maker* makes text-to-self, text-to-text, and text-to-world connections. The *Passage Picker* locates a passage of special interest that warrants rereading, and leads a short discussion about its significance. The *Word Detective* selects some difficult words in the text and uses a dictionary to clarify the vocabulary meanings for the group. *The Big Picture Person* prepares a brief summary of the text, focusing the main idea rather than the details. The teacher facilitates the Literature Circles by redirecting conversations or groups as needed, and assessing groups using checklists. Conclude with a reflection time for students to assess their own contributions and the performance of the group (Author, 2007).

7. Generating and answering questions

Research with years three to five students demonstrates that elaborative questioning improves students' comprehension of texts during instructional and independent reading contexts (Snow, 2002a, p.33). Highly effective readers constantly ask themselves metacognitive questions, such as "What is this text about? What will the next section be about? What is the most important information here for my purpose? What have I missed? What is my opinion of this topic? Students with poor comprehension need to be taught how to

read strategically and monitor their understanding by generating and answering questions during reading (Graham & Bellert, 2005).

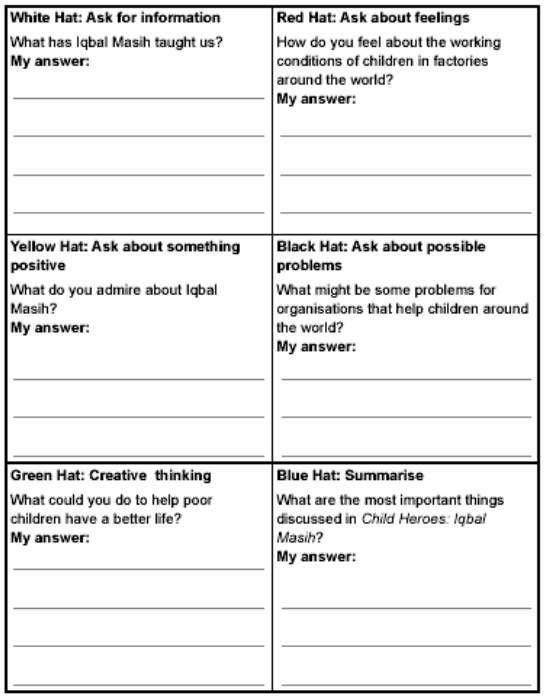


Figure 10.0 Thinking Hats

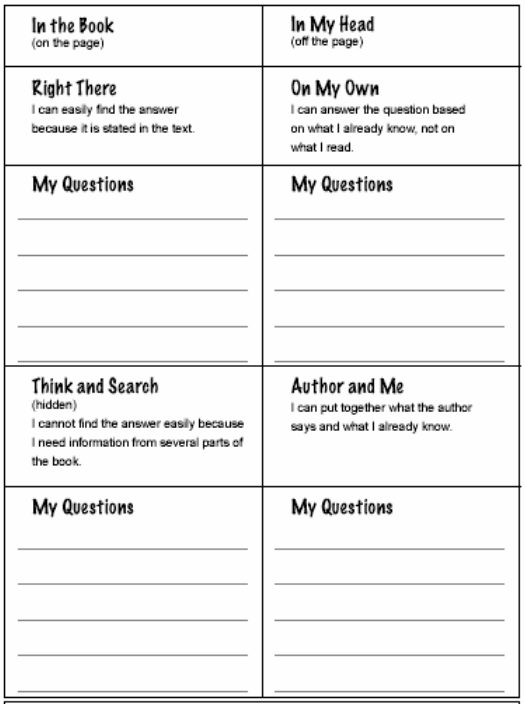


Figure 11.0 Deep versus Surface

DeBonos' {,1992 #1028} six thinking hats can be used to scaffold the students' questions and answers about text. White hat questions focus on recalling data and information with a degree of emotional detachment. Yellow hat thinking generates questions that search for the possible benefits of a viewpoint, providing constructive answers. Red hat questions take into account personal feelings, emotions, and intuition about events or viewpoints in texts. Green hat questions challenge orthodoxy, generating alternatives, and seeking creative questions and answers. Blue hat questions are used to monitor and evaluate thinking and learning, including summarising the important issues.

Deep versus Surface is a technique to model how to create and find answers to questions, aiming to generative deep and substantive knowledge of a topic. Students learn to classify four types of questions:

a) Right There: The answer is stated clearly in the text.

b) On My Own: The answer is based on what the reader already knows.

c) Think and Search: The answer is hidden in the text, requiring more than one paragraph.

d) Author and Me: The answer requires putting together what the reader knows and what the text says {Trehearne, 2006 #1023}

During shared or guided reading, teachers can ask and answer questions by "thinking aloud". This provides a model for students to generate and answer their own questions about texts when they become proficient with the strategy.

Strategies or Activities: A Word of Caution

A final word of caution is needed to ensure that meta-cognitive strategies are taught effectively. To enable student to benefit from these seven metacognitive strategies in their independent reading, they need to be taught *how* and *when* to use them. Requiring students to complete graphic organisers will not necessarily improve their self-monitoring comprehension skills. Teachers need to explain and demonstrate how the strategies can be combined and recombined in different ways for different reading situations. Students also need to know *why* each strategy is used so they can apply them independently to everyday reading contexts (Anstey & Bull, 2004; Author, 2007).

Students today are often confronted with a deluge of texts from powerful, unrestrained, and potentially harmful sources. While teaching metacognitive comprehension strategies is important, attention must also be given to critical literacy skills. Students need the tools to critique, challenge, and evaluate partial and distorted meanings, and to identify who benefits from the texts they read. Students also need to critically select, reduce, and evaluate information (Author, 2005, 2006). Critical literacy gives teachers tools to facilitate these essential thinking processes. The following list of critical literacy questions can be adapted to suit the content of particular texts and students.

Example of Critical Literacy Questions

- Who is the author of the book?
- Who are the intended readers of the book, and what tells you this?
- Why do you think the books was written?
- What cultures are shown in the book and which ones are missing?
- How are men/women/boys/girls shown in the book?
- What are some different views of men or women/ boys or girls?
- How are people of different ages shown in the book?
- Are there other ways of seeing people of different ages?
- What kinds of family roles and relationships are shown in the book, and which ones are missing?
- How does the author make you feel about _____?
- Do you agree with the authors views about _____? Why?

Figure 12.0 Example Critical Literacy Questions

Critical literacy practices show that literacy learning is not neutral. Decision about which texts are selected for children, and the how texts are used in homes, classrooms, and society are influenced by ideologies and values of particular cultures and communities. Students need to be able to go beyond comprehension to discerningly analyse and criticise

the assumptions about age, gender, social class, culture and other values presented implicitly or explicitly in both print and multimodal texts (Author, 2005).

Conclusion

It is imperative that teachers provide reading comprehension instruction by modelling and explaining the eight metacognitive strategies discussed in this paper for improving print-based and multimodal text comprehension. These strategies can be modelled during shared reading, demonstrated during guided reading, and consolidated during students' independent reading. Proficient readers have learned to monitor their comprehension by becoming aware of what they understand, recognising when they do not comprehend, and using appropriate strategies to restore comprehension. The aim of reading comprehension instruction is to enable students to internalise the strategies to become metacognitive thinkers when they read print or multimodal texts independently. Furthermore, instruction in reading comprehension must be extended to include critical literacy. We are now aware of how to enable students to become more effective, strategic, and critical readers, and this learning does not happen by chance. Teachers have the important role of modelling the strategies necessary for students to negotiate meaning in our complex textual environment.

References

Anstey, M., & Bull, G. (2004). *The literacy labyrinth* (2nd ed.). Frenchs Forest, NSW: Pearson.

Anstey, M., & Bull, G. (2007). Exploring visual literacy through a range of texts. *Practically Primary, 12*(3), 4-7.

Anstey, M., & Freebody, P. (1987). The effects of various pre-reading activities on children's literal and inferential comprehension. *Reading Psychology, 8*(3), 112-126.

Author. (2005). Deconstructing binary oppositions in literacy discourse and pedagogy. *Australian Journal of Language and Literacy, 28*(1), 67-82.

Author. (2006). *Multiliteracies: A critical ethnography: Pedagogy, power, discourse and access to multiliteracies.* Queensland University of Technology, Brisbane.

Author. (2007). *Deep End Teacher Guide*. Flinders Park: ERA Publications.

Brown, A. L., & Campione, J. C. (1992). Guided Discovery in a Community of Learners. In McGilly (Ed.), *Classroom Lessons* (pp. 229-270). London: MIT Press.

Cope, B. (2000). Designs for social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 203-234). South Yarra: Macmillan.

Cope, B., & Kalantzis, M. (1999). *Teaching and learning in the new world of literacy: A professional development program and classroom research project: Participants' Resource Book.* Melbourne: RMIT University: Faculty of Education, Language and Community Services.

Duke, N., & Pearson, D. (2002). Effective practices for developing reading comprehension. In A. Farstrup & S. Samuels (Eds.), *What research has to say about reading instruction* (pp. 205-242). Newark, DE: International Reading Association.

Graham, L., & Bellert, A. (2005). Reading comprehension difficulties experienced by students with learning disabilities. *Australian Journal of Learning Disabilities, 10*(2), 71-78.

Keene, E., & Zimmermann, S. (1997). *Mosaic of thought: Teaching comprehension in a reader's workshop.* Portsmouth, NH: Heinemann.

Kress, G. (2000). Multimodality. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 182-202). South Yarra, VIC: Macmillan.

Luke, C. (2000). Cyber-schooling and technological change. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 69-91). South Yarra, VIC: Macmillan.

New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60-92.

New London Group. (2000). A pedagogy of multiliteracies: Designing social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 9-38). South Yarra, VIC: Macmillan.

Pressley, M. (2001). Comprehension Instruction: What makes sense now, what might make sense soon. *Reading Online, 5*(2).

Rosenblatt, L. M. (1976). *Literature as exploration* (4th ed.). New York: Modern Language Association.

Shallert, D. L. (1982). The significance of knowledge: A synthesis of research related to schema theory. In W. Otto & W. White (Eds.), *Reading Expository Material*. New York: Academic Press.

Snow. (2002a). *Reading for understanding*. Santa Monica: CA: RAND Education.

Snow, C. (2002b). *Reading for understanding: Toward an R&D Program in Reading comprehension*. Santa Monica, CA: US Department of Education/ RAND Education.

Trehearne, M. P. (Ed.). (2006). *Comprehensive literacy research for grades 3-6 teachers*. Vernon Hills: ETA/Cuisenaire.

[i] The reading comprehension activities in this paper are drawn from *Author, 2007, Deep End Teacher Guide, Level Green, Flinders Park, SA: ERA Publications.*